Creating a Simple Assembly “SHAFT”

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The assembly that will be created in this exercise.

The exploded view of shaft assembly

CREATE THREE PARTS:

- RING1
- RING2
- SHAFT
STARTING TO CREATE AN ASSEMBLY

Click Create new object button shown above, and New window appears.

Note:

Choose Open icon if you wish to continue working on the unfinished ASSEMBLY.

Make sure you select Assembly under Type.

Type in SHAFT as the assembly name.

Then click OK button.

The Three Datum Planes (ASM_FRONT, ASM_TOP & ASM_RIGHT) and Coordinate System ASM_CSYS_DEF appears as shown below.
ASSEMBLE THE FIRST COMPONENT - SHAFT

From **Assembly** menu, select

**Component -> Assemble**
Select `shaft.prt`, then click Open button.

Shaft is assembled to the default datum planes of assembly

<table>
<thead>
<tr>
<th>Align</th>
<th>ASM_FRONT (yellow) and FRONT in shaft (yellow)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Align</td>
<td>ASM_RIGHT (yellow) and RIGHT in shaft (yellow)</td>
</tr>
<tr>
<td>Align</td>
<td>ASM_TOP (yellow) and TOP in shaft (yellow)</td>
</tr>
</tbody>
</table>
ASSEMBLE THE SECOND COMPONENT – RING1

Assemble – and Open Ring1.prt

Ring1 is assembled to the shaft using

<table>
<thead>
<tr>
<th>Align:</th>
<th>Axis A_1 in the ring1 and axis A_1 in the shaft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mate:</td>
<td>RIGHT surface of ring1 with hidden LEFT surface of cylindrical stopper of the shaft – see Figure below.</td>
</tr>
</tbody>
</table>
Mate these two surfaces.
Align these two axes.
Click the OK button.

ASSEMBLE THE THIRD COMPONENT – RING2

Assemble – and Open Ring2.prt

Ring2 is assembled to the shaft using

| Align: | Axis A_1 in the ring2 and axis A_1 in the shaft |
| Mate: | LEFT hidden surface of ring2 with RIGHT surface of cylindrical stopper of the shaft – see Figure below. |
Exploded view of the assembly can be created by selecting:

**View -> Explode**